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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,235	07/09/2003	Richard Warrington George	3008-1028	8327
466	7590	02/01/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			NGUYEN, MATTHEW VAN	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,235

Applicant(s)

GEORGE, RICHARD
WARRINGTON

Examiner

MATTHEW V NGUYEN

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. The disclosure should be carefully reviewed and ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, 9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirabayashi et al. (U.S. pat. No. 5,726,875).

With regard to claims 1, 2, 7, 9 and 13, Hirabayashi et al. (i.e., Fig. 2) shows an isolating power supply comprising a transformer (12) having an input connected to an AC power supply (col. 3, lines 19-21) and an output connected to a bridge rectifier (21), a primary energy storage device being a capacitor (22) for smoothing the output of the rectifier, a semiconductor switching device (24) electrically connected to the output of the capacitor (22), being switched between the conducting state and the non-conducting state, a secondary energy storage device being a capacitor (31) electrically connected to the switching device, means (i.e., 26, 29) for producing a switching device control signal so that when the switching device is in the non-conducting state the first capacitor (22) stores the output from the rectifier and the second capacitor (34) is isolated from the first capacitor (22), and when the rectifier is no longer charging the first capacitor, the switching device is in the conducting state so that the first and second capacitors are electrically connected (col. 2, line 64 – col. 3, line 45).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirabayashi et al. in view of Aldrige et al. (U.S. Pat. No. 5,548,463).

With regard to claim 3, Hirabayashi et al. shows an isolating power supply comprising all the claimed subject matter as discussed above, except for an opto-isolator being connected between the switching device and the control signal.

Aldridge et al. (Fig. 1) shows a switching power supply in which an opto-isolator (64) is connected between the switching device (36) and the control unit (62).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the opto-isolator being connected between the switching device and the controller as disclosed in Aldrige et al. into the power supply apparatus of Hirabayashi et al. for the purpose of having a better controlling the activation of the switching device.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoole (U.S. Pat. No. 5,977,658).

With regard to claim 4, Hirabayashi et al. shows an isolating power supply comprising all the claimed subject matter as discussed above, except for the control signal being 180 degrees out of phase with the AC power supply.

Hoole shows an AC power supply in which the switching control means activates the switching device 180 degrees out of phase with the AC power supply (col. 2, lines 6-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the control signal being 180 degrees out of phase with the AC power supply as shown in Hoole into the power supply apparatus of Hirabayashi et al. for the purpose of minimizing the voltage ripple.

5. Claims 5, 6, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirabayashi et al. in view of Bennett (U.S. pat. No. 6,469,919).

With regard to claims 5, 6, 8 and 10, Hirabayashi et al. shows an isolating power supply comprising all the claimed subject matter as discussed above, except for the control signal having a square-wave form, the switching device being a MOSFET, and the energy storage devices being inductors.

Bennett (Fig. 2) discloses a power supply in which the control signal (S1) for the switching device having a square-wave form, the switching device being a MOSFET, and the energy storage devices being inductors (L1, L2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the control signal having a square-wave form, the

switching device being a MOSFET, and the energy storage devices being inductors as shown in Bennett into the power supply apparatus of Hirabayashi et al. for the purpose of obtaining an easier manipulation (square-wave form comparing to other wave forms), reducing the size of the switching device (MOSFET comparing to other types of transistor), and more gradually change of voltage (inductor comparing to capacitor).

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirabayashi et al.

With regard to claims 11 and 12, Hirabayashi et al. shows an isolating power supply comprising all the claimed subject matter as discussed above, except for the plurality of primary and secondary energy storage devices being provided. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the plurality of primary and secondary energy storage devices instead of a single one, since it has been held that mere multiplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Thrap (U.S. Pat. No. 6,614,671) and Tsai (U.S. Pat. No. 6,650,553) also disclose power supply circuits each of which comprising an isolated manner.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew V. Nguyen whose telephone number is (571) 272-2081.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2800.

Matthew V. Nguyen
MATTHEW V. NGUYEN
PRIMARY EXAMINER